

Supporting Information

Flexible ε -Fe₂O₃-terephthalate thin-film magnets through ALD/MLD

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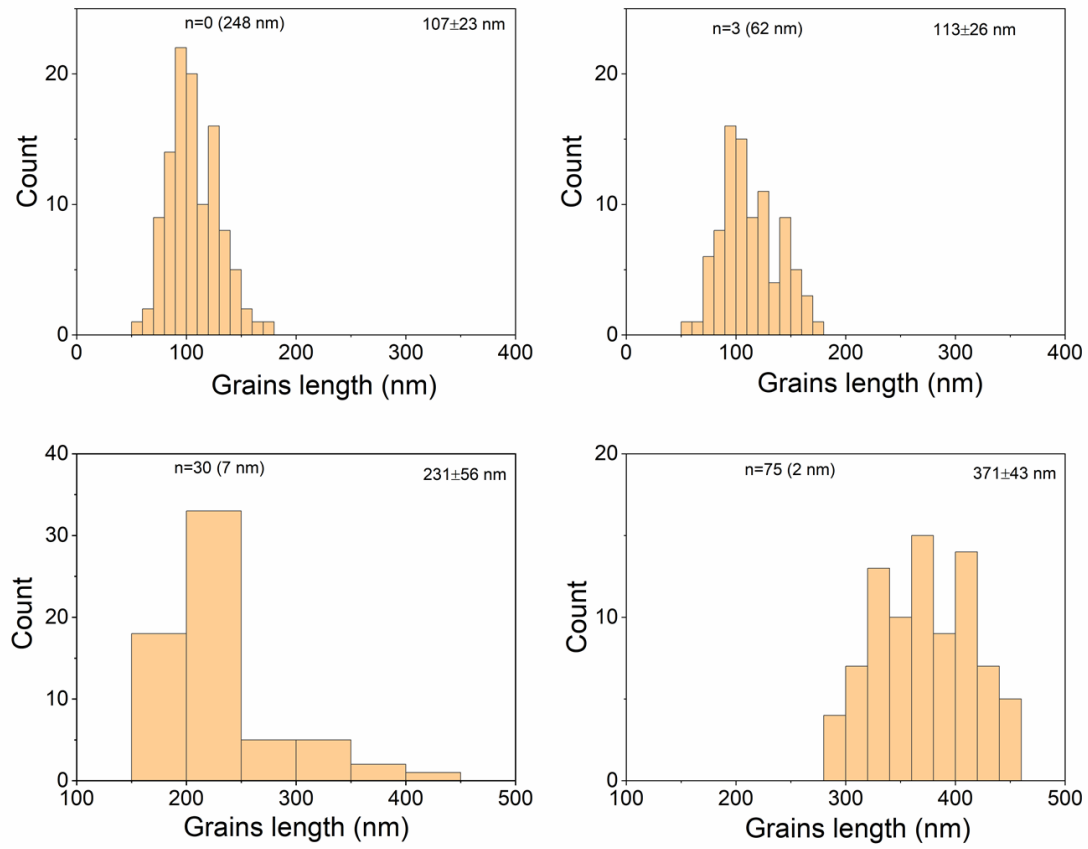


Figure S1. Histograms to show the grain size distribution in both ϵ -Fe₂O₃ and ϵ -Fe₂O₃-TP SL structures. The average grain size is given in the histogram.

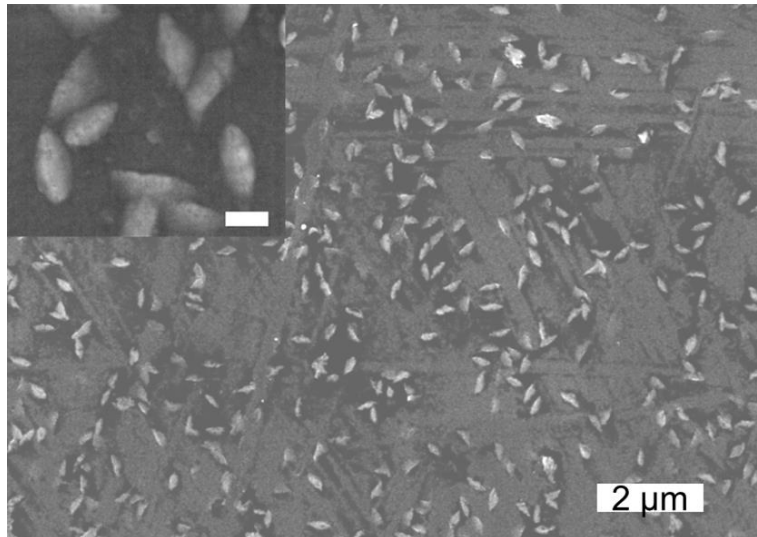


Figure S2. Top-view SEM images from $n=75$ (2 nm) sample. Magnified image with a scale bar of 200 nm is given as insert.

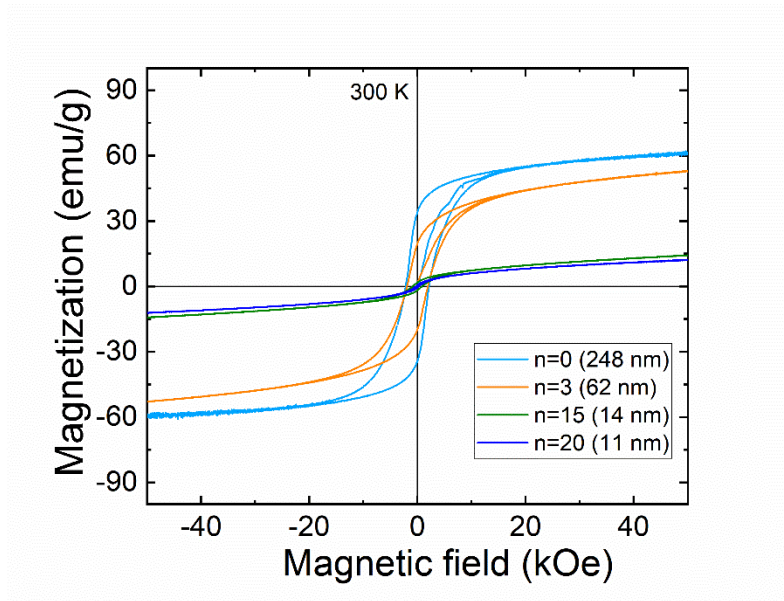


Figure S3. Magnetization versus field curves measured at 300 K for samples with total Fe₂O₃ content is \approx 230-250 nm.

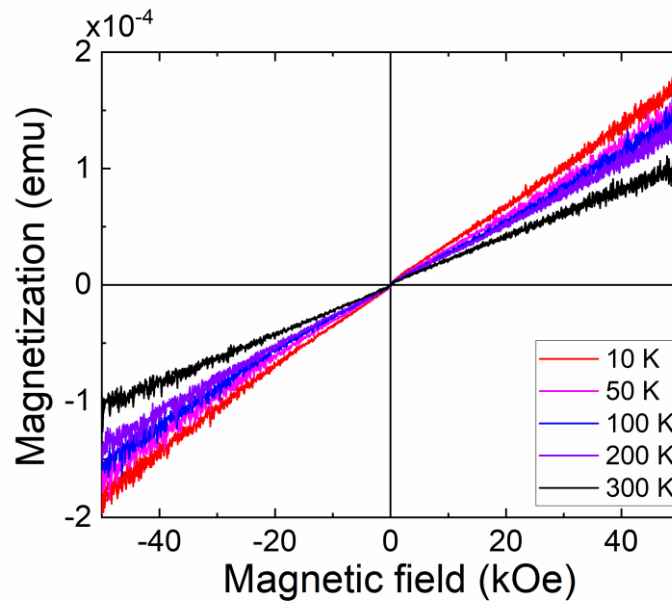


Figure S4. Magnetization versus field curves measured at various temperatures for the Fe-TP (m=0) film; the M-H curve shape confirms the paramagnetic behaviour.

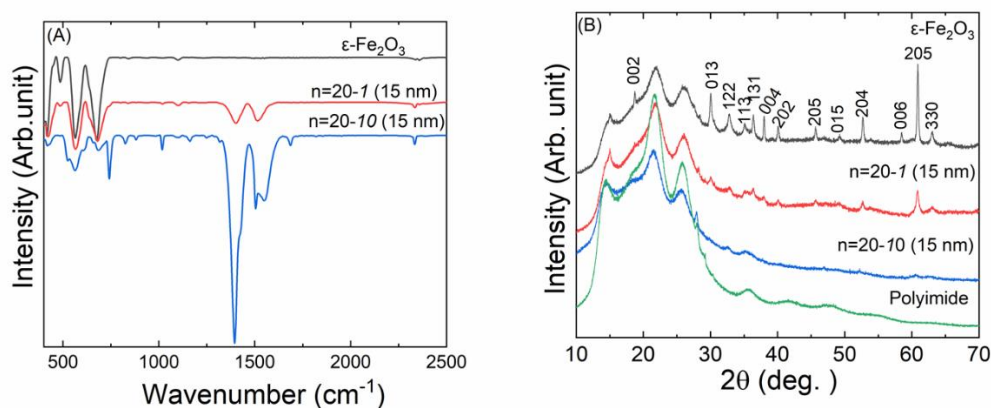


Figure S5. Characterization of SL structures with different number of hybrids (k) in their molecular layers (A) FTIR spectra of the samples deposited on silicon substrate. (B) XRD patterns of the samples deposited on polyimide. For comparison XRD pattern of pure polyimide is also given.

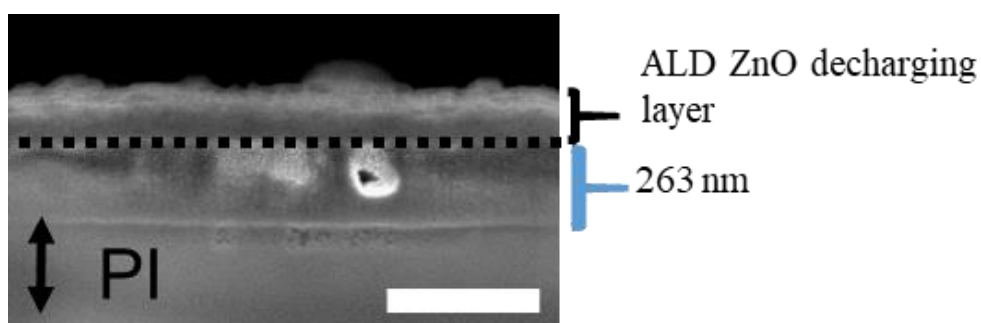


Figure S6. Cross-section SEM images for Fe-TP hybrid grown on polyimide (PI) substrates. ZnO decharging layer was deposited over Fe-TP hybrid for the measurement. Experimentally obtained thickness was given in the image. The scale bar is 500 nm.

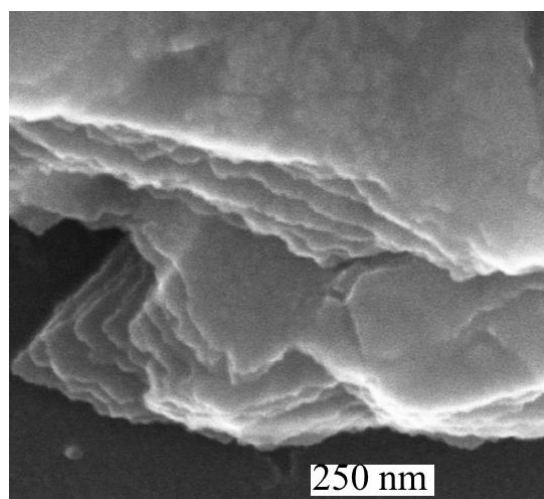


Figure S7. Cross-section SEM image of n=20-10 (15 nm) sample grown on silicon (100); scale bar is 250 nm.

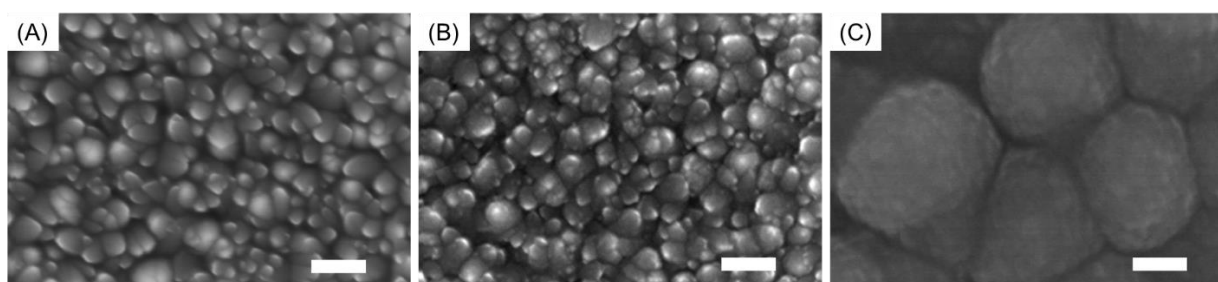


Figure S8. Top-view SEM images for: (A) ϵ -Fe₂O₃, (B) n=20-1 (15 nm), and (C) n=20-10 (15 nm) samples grown on silicon substrates. The scale bar is 250 nm in each image.